

WHAT IS CLAIMED IS:

1. A process of manufacturing a tooth of a dipper bucket of a shovel, the tooth having a larger joining portion coupled to the dipper bucket and a sharp portion, the process comprising the steps of:
  - (a) cooling the molded tooth in a furnace at a first temperature;
  - (b) suddenly cooling the tooth in a fluid contained in the furnace;
  - 10 (c) heating the tooth at a second temperature;
  - (d) slowly cooling the tooth in the air;
  - (e) supporting the tooth in the furnace with the joining portion immersed in the fluid and the sharp portion exposed in the air; and
  - 15 (f) producing the finished tooth.
2. The process of claim 1, wherein the furnace is an electric furnace.
3. The process of claim 1, wherein the first temperature is about 920°C.
- 20 4. The process of claim 1, wherein the fluid is oily.
5. The process of claim 1, wherein the second temperature is about 460°C.
6. The process of claim 1, wherein the fluid at a bottom of the furnace has a temperature about 560°C and the fluid at  
25 its surface has a temperature about 460°C.

7. The process of claim 1, wherein the joining portion has a hardness number from about 35 to about 46 as expressed in HRC and the sharp portion has a hardness number from about 46 to about 48 as expressed in HRC.